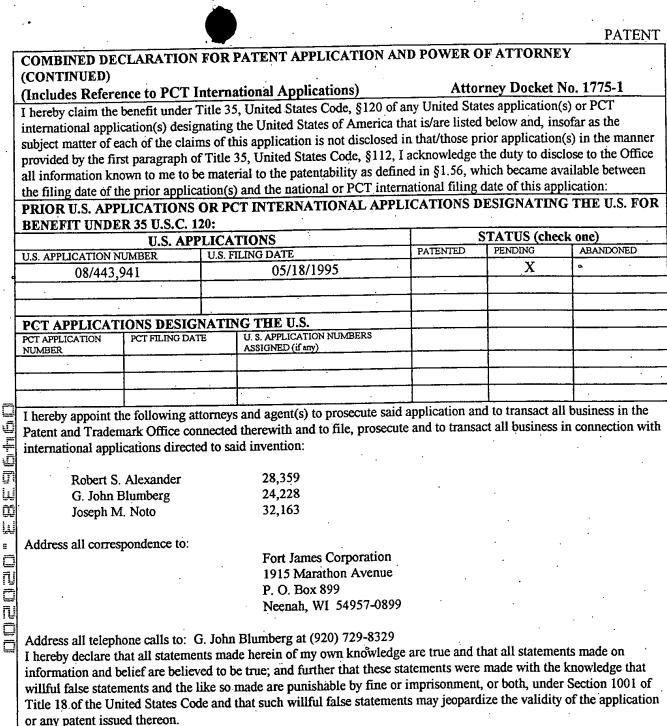


| PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C § 119: |             |                     |                     |  |  |  |
|--|-------------|---------------------|---------------------|--|--|--|
| COUNTRY  | APPLICATION | DATE OF             | PRIORITY            |  |  |  |
| (if PCT, indicate "PCT")   | NUMBER      | FILING (day, month, | CLAIMED<br>UNDER 35 |  |  |  |
| · · · · · · · · · · · · · · · · · · ·  |             |                     |                     |  |  |  |
| •  |             | year)               | U.S.C. §119         |  |  |  |
|  |             |                     | Yes                 |  |  |  |
|  |             |                     | No                  |  |  |  |
|  |             |                     | Yes                 |  |  |  |
|  |             |                     | No                  |  |  |  |
|  |             |                     | Yes                 |  |  |  |
|  |             | 1                   | No                  |  |  |  |
|  |             |                     | Yes                 |  |  |  |
| •  |             |                     | No No               |  |  |  |



FULL NAME OF SOLE OR FIRST INVENTOR

Luu, Phuong Van

RESIDENCE

SIGNATURE

| DATE | 03/16/98

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| COMBINED DECLARATION FOR PATENT APPLICATION AND PO   | OWER OF ATTORNEY           |
|--|----------------------------|
| (CONTINUED) (Includes Reference to PCT International Applications)                             | Attorney Docket No. 1775-1 |
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IN THE U.S. PATENT AND TRADEMARK OFFICE

APPLICANT:

Phuong Van Luu, et al.

GROUP:

1713

SERIAL NO .:

9/496,383 Unassigned

**EXAMINER:** Judy M. Reddick

FILED:

February 2, 2000

FOR:

CROSSLINKABLE CREPING ADHESIVE FORMULATIONS

## **DECLARATION UNDER 37 C.F.R. §1.132**

Assistant Commissioner for Patents Washington D.C. 20231

February 2, 2000

Sir:

- I, Phuong Van Luu, declare as follows:
- 1. I am one of the co-inventors of this Application and U.S. Application Serial No. 08/955,733, filed on October 22, 1997, and its parent application Serial No. 08/443,941 filed on May 18, 1995. I am thoroughly familiar with the contents of all three Applications, and the prosecution of the parent applications before the United States Patent and Trademark Office and the references cited therein.
- 2. I have a BS Degree in Chemistry (1970) and a MS degree in Physical Organic Chemistry (1974), both from the University of Saigon-Vietnam.
- 3. I have been employed by Fort James Corporation, including its predecessor James River Corporation, since 1989, first as a Senior Technician in the Department of Towel and Tissue Manufacturing Technology, and currently as a Research Scientist in the Department of Papermaking/Converting Process Development. I am co-inventor of several U.S. patents related to Yankee adhesive and Tissue softness.



- I am thoroughly familiar with the Office Action which issued on Serial No. 4. 08/443,941 application on July 15, 1997, where the Examiner rejected the claimed subject matter as being obvious over the teachings of Smigo et al., U.S., Patent No. 5,281,307, in view of Miyosawa, U.S. Patent No. 4,016,179, or Hollenberg et al., U.S. Patent No. 5,246,544, and in the advisory action dated October 8, 1997, wherein the Examiner dropped Miyosawa U.S. Patent 4,016,179 as a reference.
- To summarize, the present invention provides creping adhesives which are 5. friendly to the environment since they do not produce any chlorine containing pollutants as by products. The creping adhesives of this invention are formed on the Yankee surface from zirconium compounds having a valence of four and organic polymers having amine moieties wherein the zirconium compounds function as crosslinking agents as is set forth in the claims.

The zirconium compounds, having a valence of four, crosslink preferably with the amine functionality of the organic polymer. That reaction is set forth hereon as:

OH O OH  
+ | + | + | + | 2RNH<sub>2</sub> + 
$$Zr^4 \rightarrow RNH_2 - Zr$$
  $Zr - NH_2 - R$   
OH O OH

The reaction with the cellulose fiber is formulated as follows:

OH O OH
$$+ \mid \qquad \qquad |$$
RNH<sub>2</sub> + Cellulose - COOH  $\rightarrow$  RH<sub>2</sub>N - Zr  $\downarrow$  Zr - OOC - Cellulose
$$\mid \qquad \qquad |$$
OH O OH

The zirconium crosslinking agent also reacts with alcohol moiety of the organic polymer according to the following equation:



Thus the zirconium compound crosslinking agents facilitate the crosslinking of the organic polymer to the cellulose fiber and also crosslink the organic polymer to itself through the amine or the hydroxyl moiety.

6. The remaining references in Serial No. 08/955,733 are Smigo, U.S. Patent No. 5,232,553, and Hollenberg et al., U.S. Patent 5,246,544.

In my expert opinion, none of the cited references render the claims of the instant application obvious. The Smigo reference discloses certain polyvinylamines suitable for reducing fines in the papermaking process. The Smigo reference is specifically directed to retaining fines from recycle of waste papers. The Hollenberg U.S. Patent 5,246,544 is directed to adhesives prepared prior to the application of the components to the Yankee surface. The Hollenberg et al. reference does not disclose polymers having amine moieties. The adhesives claimed herein are prepared on the Yankee surface. If they were prepared as set forth in the process disclosed by Hollenberg et al. reference of record, the whole composition would gel and could not be used as a creping adhesive. Thus, in my expert opinion, the aforementioned references of record do not render the claims 1 through 5 obvious within the meaning of 35 U.S.C. 103.

7. The Hollenberg et al. U.S. Patent 5,246,544 is further unable to support a 35 U.S.C. 103 rejection since nitrogen containing softeners were not utilized in the Hollenberg



process. Thus, in my expert opinion, in addition to the reasons set forth in Paragraph 6, U.S. Patents 5,232,553 and 5,246,544 do not render the claims covering such softeners obvious.

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

| Signature    | - Music<br>Phuong | y Van Luu | ML                        | ·     |
|--------------|-------------------|-----------|---------------------------|-------|
| Date         | 62/02/            | 00        | Country of Citizenship _  | U.S.  |
| Residence    | -                 | 2223 E. C | alumet Street, Appleton W | 54915 |
| and Post Off | ice Address       | same      |                           |       |

J:\PATENT\PATENT\DECL&POA\1775-1A Declaration